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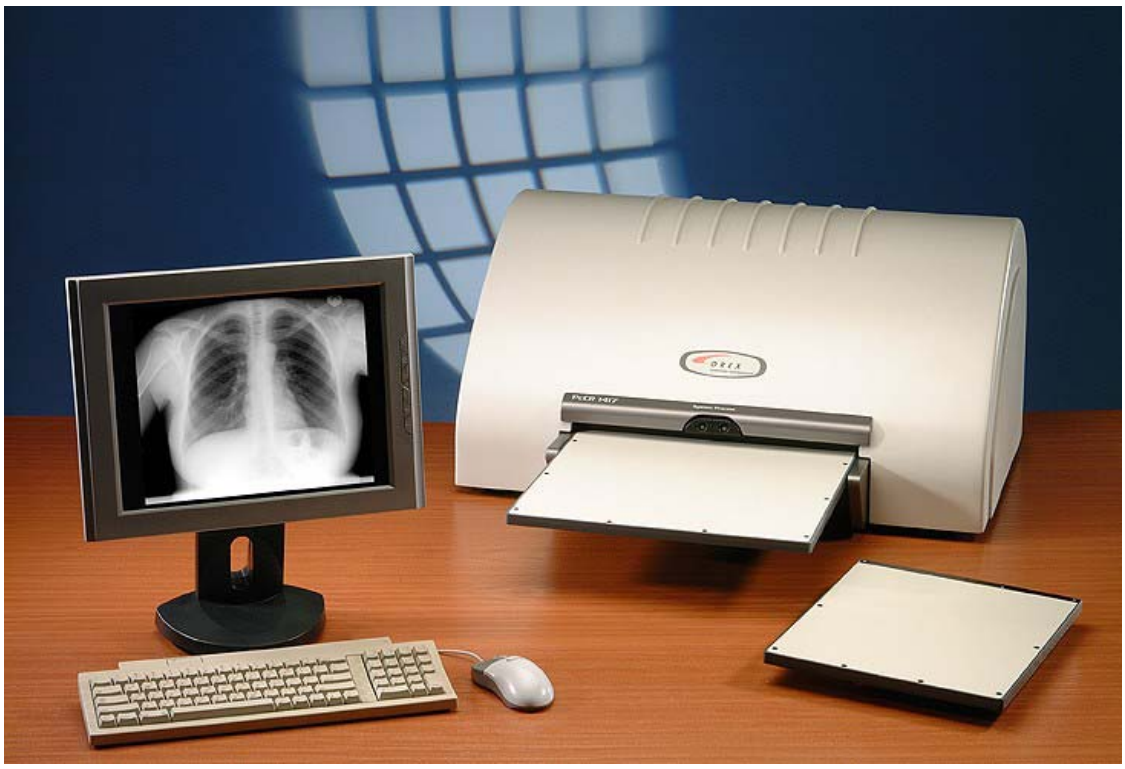
PcCR 1417 ACL4 System

Automatic Cassette Loading Version



Installation Manual

Catalog number: AT095047-00

January, 2003 Ver. 01

OREX Computed Radiography Ltd.

OREX Ltd. is a market innovator in the field of portable Computed Radiography Technologies—designed and priced for low-volume clinic or field unit needs.

Founded in 1995 under the name of Digident, the company initially entered the market of desktop dental radiography providing high quality, portable CR reading units for dental and orthodontic professionals around the world. The secret of Digident/OREX's rapid success lies in *the best cost-performance ratio on the market*.

OREX designs, manufactures and markets phosphor image laser scanners. These units replace the traditional x-ray film and light box. The scanners allow the user to immediately read the x-ray image from the phosphor plate, and transfer it to a DICOM 3 compatible digital computer file. Once transferred, users can manipulate the digital image for close-up screening, or transmit it for long-distance consultation. After each scan, the phosphor plates are automatically erased by the unit, ready for re-use.

OREX provides clients with a full solution including phosphor image plates, laser readers, software for image processing, storage, retrieval and communication in Picture Archiving and Communications System (PACS) compatible format.

The company's mission is to become a leading provider of compact personal CR systems. Following the successful penetration of the global dental market, the company changed its name from Digident to OREX and expanded its markets and product lines to serve the *dental, medical, military, industrial and veterinary* fields.

"We are committed to assisting our customers in obtaining maximum value from OREX products by providing excellent support at exceptional value."

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Safety Summary

LIFTING HAZARD

The PcCR 1417 scanner weighs 40 Kg (88lb).

- Do not try to lift the scanner by yourself.
- Always seek assistance from another person.
- Lifting equipment that is too heavy may result in serious injury to personnel and/or damage to equipment.

WARNING

The PcCR1417 scanner is a CLASS 1 Laser product.

- Do not remove the scanner cover
- Cover removal should be done only by authorized service personnel

Laser Safety Instructions

1. During normal operation, the scanner should always be enclosed in its protective cover. This is to prevent the outside area from being exposed to laser.
2. During normal operation, the cover should not be removed. Removing the cover should only be done for service purposes by a qualified technician.

Table of Contents

1. Terms and Conventions.....1-1

2. Packaging.....2-1

3. Site Preparation.....3-1

3.1 General.....3-1
3.2 Computer Requirements.....3-1
3.3 Space Requirements.....3-1
3.4 Electrical Requirements.....3-2
3.5 Environmental Requirements.....3-3
3.5.1 Temperature.....3-3
3.5.2 Light.....3-3

4. Installation.....4-1

4.1 General.....4-1
4.2 System Configuration On-Site.....4-2
4.3 Equipment Required For Complete Installation.....4-3
4.4 Installation process.....4-4
4.4.1 Connecting the cables.....4-4
4.4.2 Installing the drivers for the PcCR 1417.....4-4
4.4.3 Installing the “Scanner Interface”.....4-9
4.4.4 Or-Acquire Installation.....4-11
4.4.5 Installing the GOP Driver.....4-11
4.4.6 Licensing the GOP Filters.....4-15
4.5 Installation Report.....4-18

5. Scanner Interface Software.....5-1

5.1 General.....5-1
5.2 Interface Description.....5-1

5.2.1 Main Screen 5-1
5.2.2 Setup Anatomical 5-3
5.2.3 Setup Image 5-7
5.2.4 Setup Configuration 5-9
5.2.5 Setup Operation Update 5-13
5.2.6 Setup Diagnostics 5-14
5.2.7 Setup Automatic Tests 5-16
5.2.8 Setup Advance 5-18
5.2.9 Setup About 5-20
5.2.10 Image Diagnostics 5-22

6. Troubleshooting 6-1

7. Appendix A: Installation Prerequisites 7-1

8. Appendix B: Installation Report 8-1

List of Figures

Figure 1: Closed Box....2-1
Figure 2: Open Box....2-1
Figure 3: PcCr 1417 Dimensions....3-2
Figure 4: System Configuration....4-2
Figure 5: Dongle Parallel Plug....4-3
Figure 6: CVLicense Window Before GOP Licensing....4-15
Figure 7: Setting the GOP License Key....4-16
Figure 8: CVLicense Window After GOP Licensing....4-17
Figure 9: Scanner Interface, Main Screen....5-1
Figure 10: Setup Menu, Anatomical tab....5-3
Figure 11: Setup Menu, Image tab....5-7
Figure 12: Setup Menu, Configuration tab....5-9
Figure 13: Setup Menu, Operation Update tab....5-13
Figure 14: Setup Menu, Diagnostics tab....5-14
Figure 15: Setup Menu, Automatic Tests tab....5-16
Figure 16:Setup Menu, Advance tab....5-18
Figure 17: Setup Menu, About tab....5-20
Figure 18: Image Diagnostic screen (Mini Viewer)....5-22

1. Terms and Conventions

The following abbreviations are used throughout this manual:

Term	Meaning
FSE	Field Service Engineer
PSP	Photo-Stimulate Phosphor
USB	Universal Serial Bus

2. Packaging

The PcCR 1417 is shipped in a custom designed box that protects the scanner. If the PcCR 1417 needs to be returned to Orex or one of its dealers, the scanner must be repacked in its original box, and must include the CD and the USB cable.

Figure 1: Closed Box

Please use all the protective parts in the box in order to keep the risk of damage to the scanner to a minimum.

Figure 2: Open Box

3. Site Preparation

3.1 General

Inform the client about the site preparation requirements prior to installing the PcCR 1417. Without these requirements being met, you cannot complete the installation, and the client's ability to use the PcCR 1417 properly can not be guaranteed.

3.2 Computer Requirements

Pentium 4, 1.8 GHz (or above)
256 MB RAM (512MB recommended)
Hard drive – 20 GB (or above)
Network adapter (required for Dicom – send)
Operating system – Win 2000 (ONLY !!!)
USB Port
NO USB mouse or keyboard
Parallel port
Screen resolution – 1024 x 768 (or above)

3.3 Space Requirements

The PcCR 1417 shall be positioned on a stable surface, with at least 20 cm (~ 8") free space on every side of the scanner. A long USB cable shall connect the PcCR 1417 scanner to the computer, enabling a proper distance of these units from each other.

The space requirements for the PcCR 1417 (including scanner dimensions and additional space) are shown below:

Figure 3: PcCr 1417 Dimensions

3.4 Electrical Requirements

Voltage:	90 V–250 V AC
Frequency:	50Hz–60Hz
Fuses:	Two fuses are located next to the **On**/**Off** switch at the back of the scanner. Each fuse protects one of the power supplies. The fuses are 1A (slow blow).
UPS:	Online; 500 VA

3.5 Environmental Requirements

3.5.1 Temperature

Maintain the room temperature between 18ºC and 30ºC, normal lab conditions; relative humidity 80%, non-condensing.

3.5.2 Light

The PcCR 1417 is sealed and protected from light penetration. However, it is recommended to keep the PcCR 1417 in standard room light, away from the window.

The PcCR 1417 uses phosphor plates for acquiring images. The phosphor plates are sensitive to light, and therefore exposure to light should be kept to a minimum. The phosphor plates should be exposed to light only when they move from the cassette into the PcCR 1417 scanner.

For optimal results, room light is recommended at less than 1000 Lux.

4. Installation

This chapter contains explanations regarding the installation of the PcCR 1417.

The FSE who installs the PcCR 1417 shall follow the steps described herein. Upon completion of the installation, fill out the Installation Report (Appendix B).

4.1 General

On-site installation of the PcCR 1417 shall be carried out by FSEs authorized by Orex, and will follow the instructions below: who do the following:

1. Verify the integrity and check the shock indicators on the package.
2. Unpack the PcCR 1417 and position it in the desired location.
3. Verify the integrity of the unit and its components.
4. Plug the system into the electrical outlet, and connect the USB cable to the PC (section 4.4.1.)
5. Install the software for the PcCR 1417 (section 4.4.2 – 4.4.4.)
6. Test the system's functional operation.
7. Send a completed Installation Report (Appendix B) to Orex service department.

Note: The warranty shall not be issued until Orex service department receives the installation report. (Warranty will be issued only after Orex service department receives the installation report)

4.2 System Configuration On-Site

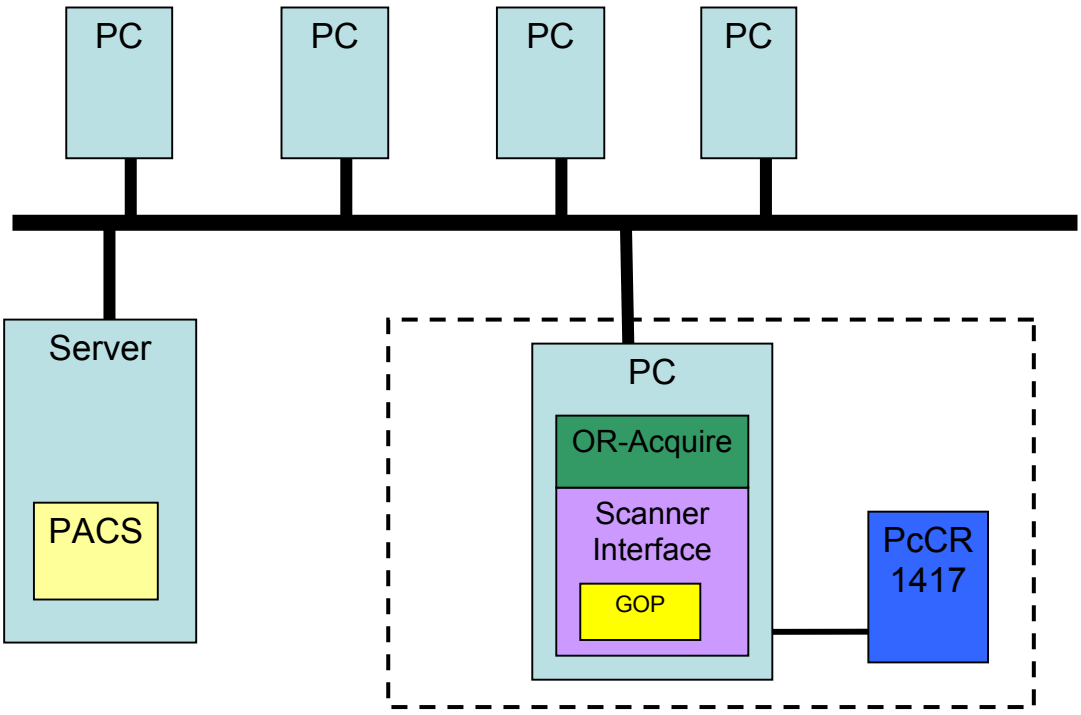


Figure 4: System Configuration

PC – Make sure that the PC you are using meets the requirements described in Section 3.2, Computer Requirements

Scanner interface – Software supplied by Orex with every system

GOP – Enhancements for the scanner interface software for the purpose of image enhancement (requires special dongle connected to the parallel port of the PC)

Please note:
Installation without the GOP causes a non-optimal image quality.

Or-Acquire – Imaging software installed on the PC for the purpose of acquiring, storing, and Dicom sending the images to different stations

Please note:
Users that do not intend to use Or-Acquire should skip section 4.4.4.

4.3 Equipment Required For Complete Installation

1. PC (refer to “computer requirements” for details)
2. Cables: Power cable (not included with the PcCR 1417), USB cable (included with the PcCR 1417)
3. “Scanner interface” CD
4. “Or-Acquire” CD
5. Dongle (parallel plug) for licensing GOP filters and Or-Acquire

Figure 5: Dongle Parallel Plug

4.4 Installation process

The installation process includes the following:

4.4.1 Connecting the cables

4.4.2 Installing drivers for PcCR 1417

4.4.3 Installing “scanner interface”

4.4.4 Installing Or-Acquire

4.4.6 Installing the Dongle (license for GOP)

4.4.4 Licensing the GOP filters

4.4.1 Connecting the cables

1. Connect the power cable from the PcCR 1417 to the power outlet.
2. Connect the USB cable (included in the PcCR 1417 box) to the USB port of the PC.

4.4.2 Installing the drivers for the PcCR 1417

1. Turn on the PcCR 1417. The system makes initializations noise. “Found new hardware” screen appears, followed by the installation screen:

2. Click “next”

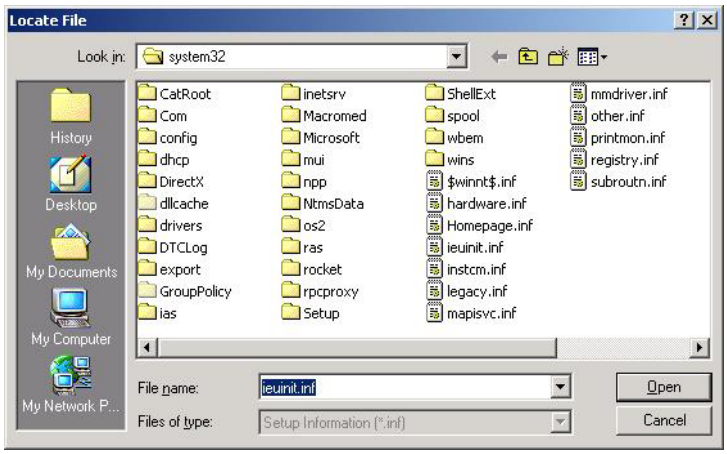
Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
USB Device
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

3. Choose “Search for a suitable…”; then click “Next”

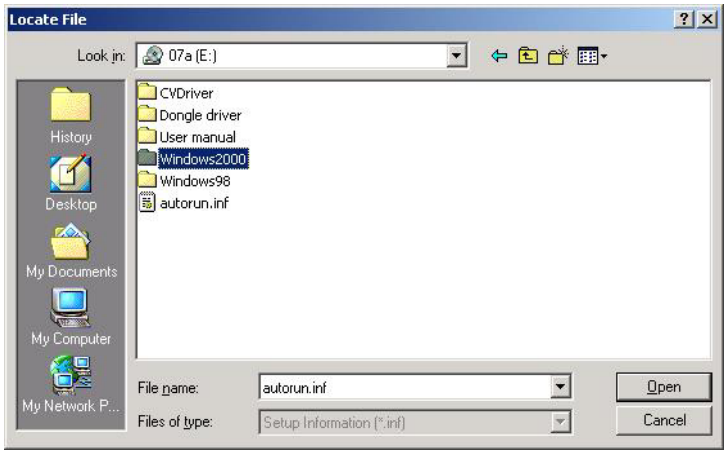
Found New Hardware Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
USB Device
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

4. Leave only the “specify a location” check-box selected; then click “Next”

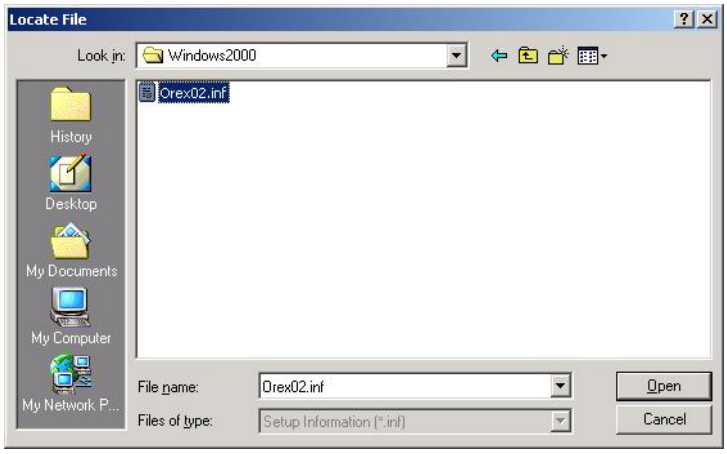
5. Insert the “scanner interface” CD in to the CD-Rom drive.
   Click the “Browse” button.



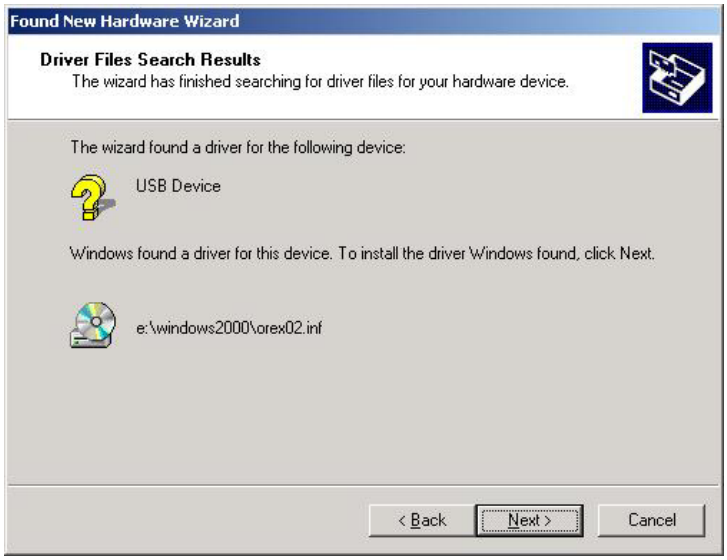
6. A “Locate file” window appears.
   Browse to the CD-Rom.



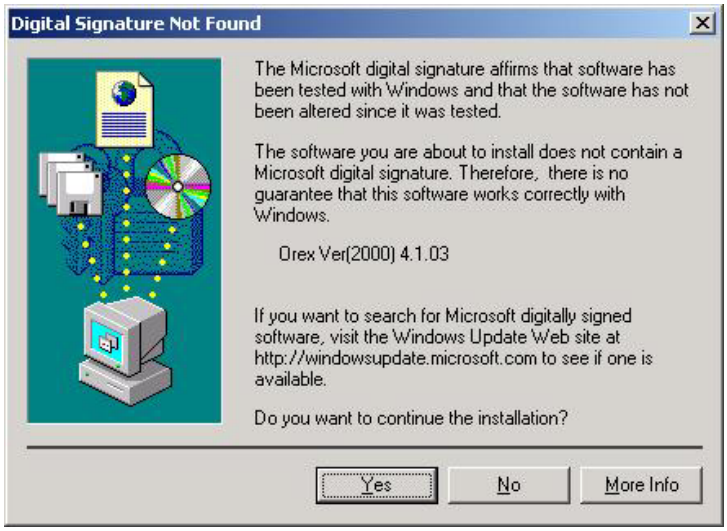
7. Double click the “Windows2000” folder.



8. Mark the “orex02.inf” file; then click “Open”


Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
USB Device
Windows found a driver for this device. To install the driver Windows found, click Next.
e:\windows2000\orex02.inf
< Back
Next >
Cancel

9. The Installation Wizard finds the driver for the PcCR 1417.
   Click “Next”.


Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
Orex Ver(2000) 4.1.03
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

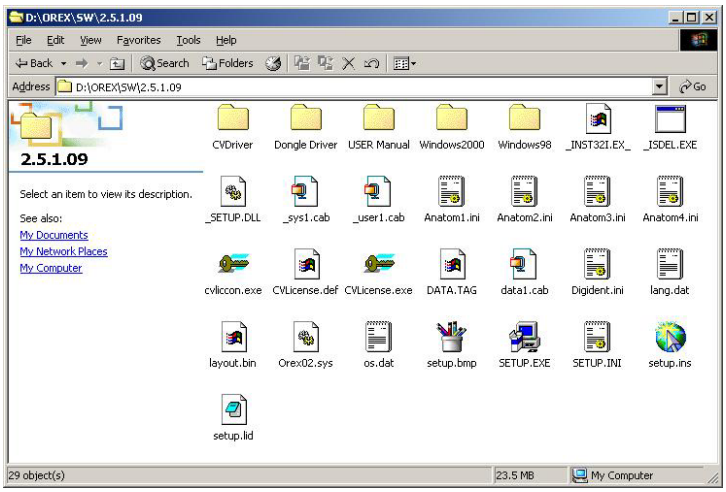
10. Click “Yes” for confirming the driver file

Found New Hardware Wizard
Completing the Found New Hardware Wizard
Orex Ver(2000) 4.1.03
Windows has finished installing the software for this device.
To close this wizard, click Finish.
< Back
Finish
Cancel

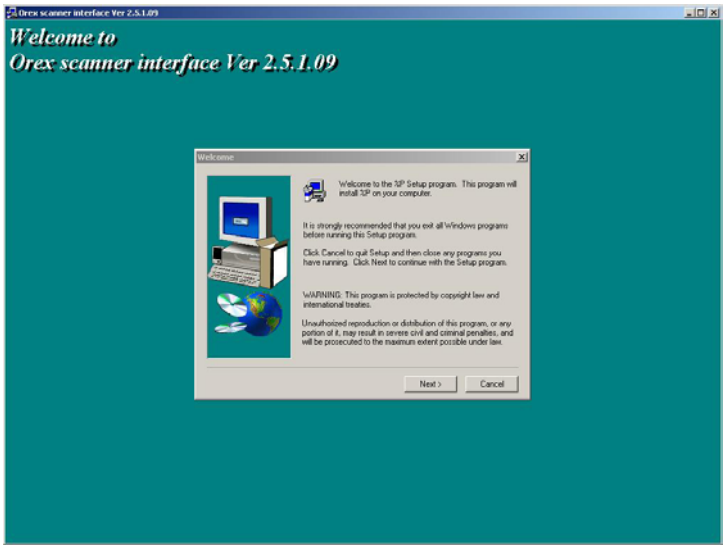
11. The installation wizard completes the installation of the driver.

4.4.3 Installing the “Scanner Interface”

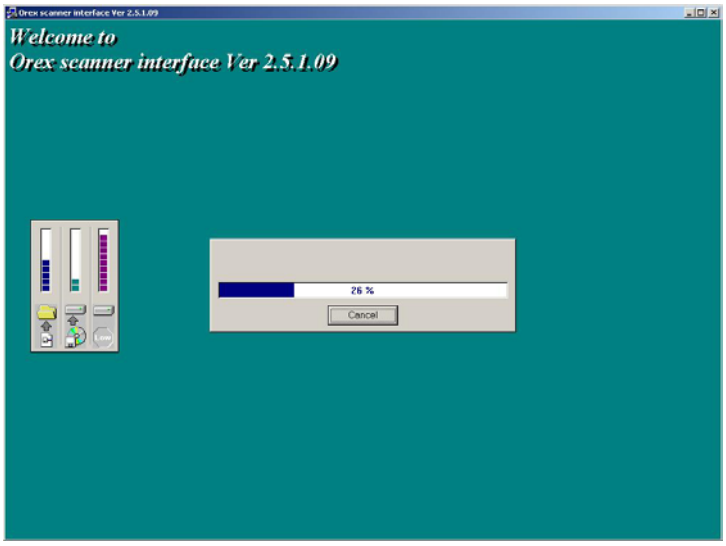
1. Insert the “Scanner Interface” CD into the CD-Rom drive. Double-click on “My Computer” and choose the CD-Rom drive. The content of the CD will appear on a new window:



2. Double-click the “setup.exe” file.

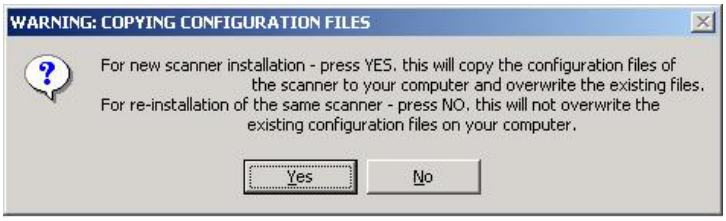


3. The installation of “Scanner Interface” begins. Click “Next”.

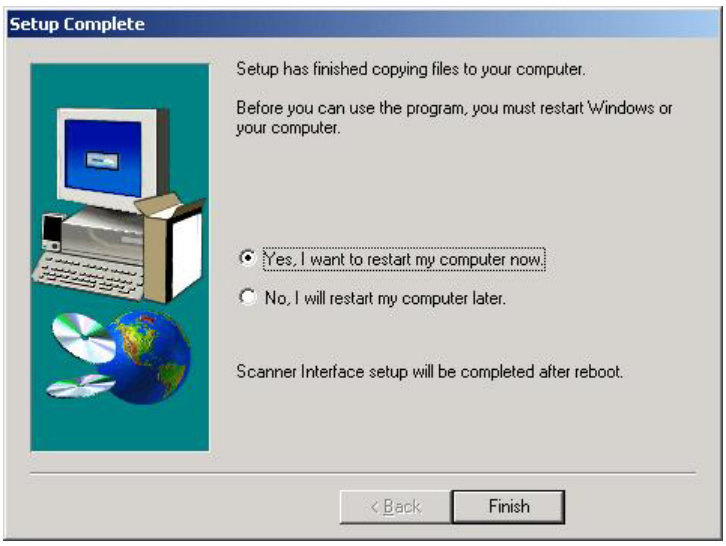


4. The software is now being installed.

5. At the end of the installation process, you are prompted to copy the configuration files.
   Click “yes”.


WARNING: COPYING CONFIGURATION FILES
For new scanner installation - press YES, this will copy the configuration files of the scanner to your computer and overwrite the existing files.
For re-installation of the same scanner - press NO, this will not overwrite the existing configuration files on your computer.
Yes
No

6. The “Scanner Interface” software is now installed.
   Click “Finish” to restart the computer.


Setup Complete
Setup has finished copying files to your computer.
Before you can use the program, you must restart Windows or your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Scanner Interface setup will be completed after reboot.
< Back
Finish

4.4.4 Or-Acquire Installation

The Or-Acquire is supplied on a different CD than the one with the "Scanner Interface".

For installation of the Or-Acquire, refer to the detailed explanations in the Installation Manual located on the CD with Or-Acquire.

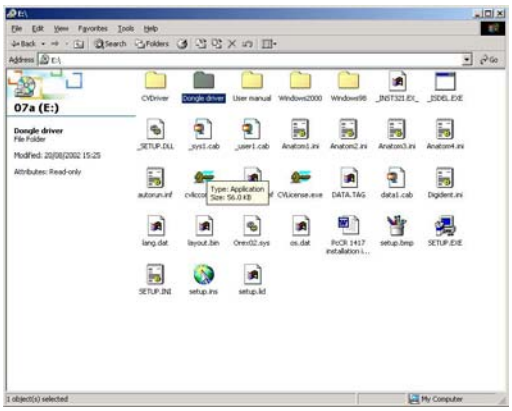
Pay attention:

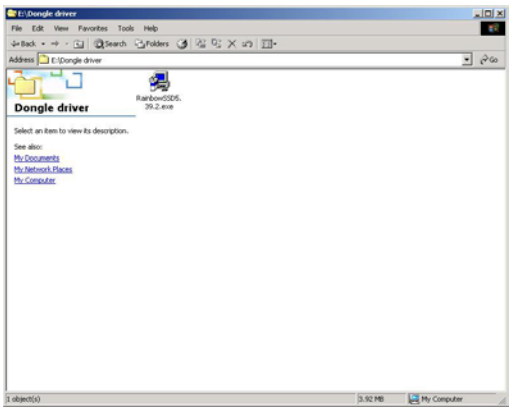
1. The Or-Acquire also needs the Dongle, installed on section 4.4.4, in order to work. If the Dongle is not installed, or is not connected to the parallel port, the software cannot run.
2. Restart the computer at the end of the Or-Acquire installation.

4.4.5 Installing the GOP Driver

The GOP filter is an image enhancement feature that can be added to the scanner interface software. It requires the Dongle, specified at the beginning of this chapter.

1. Connect the Dongle (parallel plug) to the parallel port of the PC.
2. Insert the "Scanner Interface" CD into the CD-Rom drive. Browse to the CD-Rom drive on the windows explorer, and double click the "Dongle Driver" folder.

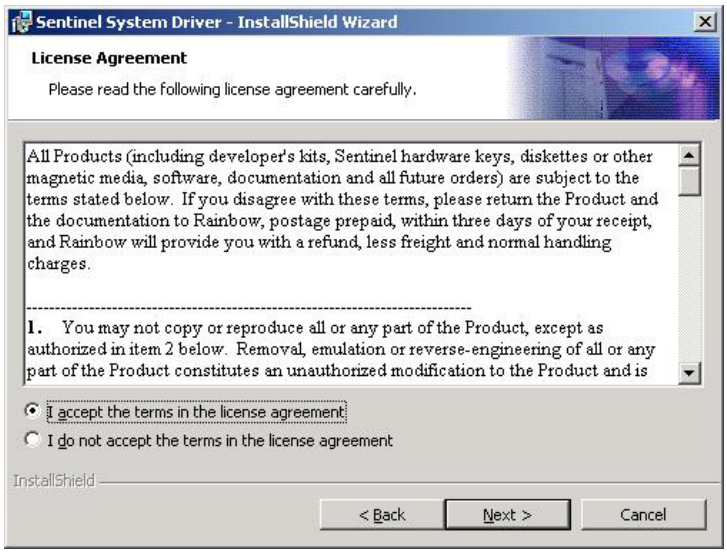




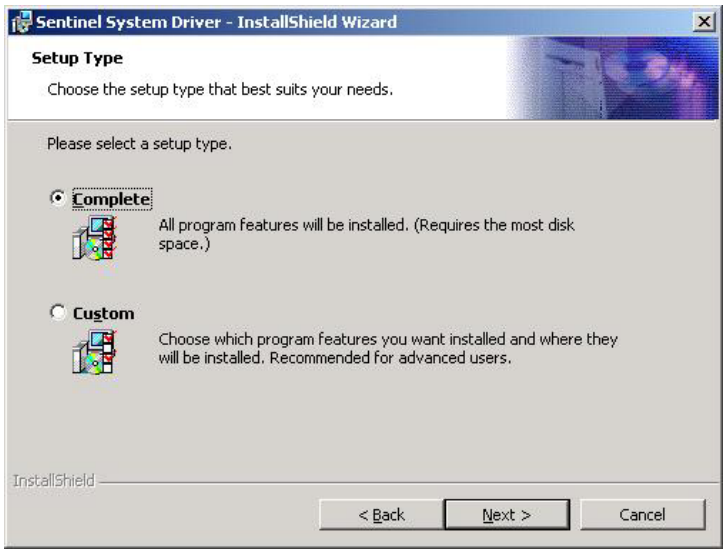
3. Double click the "RainbowSSD5.39.2.exe" file.

Sentinel System Driver - InstallShield Wizard
Welcome to the InstallShield Wizard for Sentinel System Driver
The InstallShield(R) Wizard will install Sentinel System Driver on your computer. To continue, click Next.
< Back
Next >
Cancel

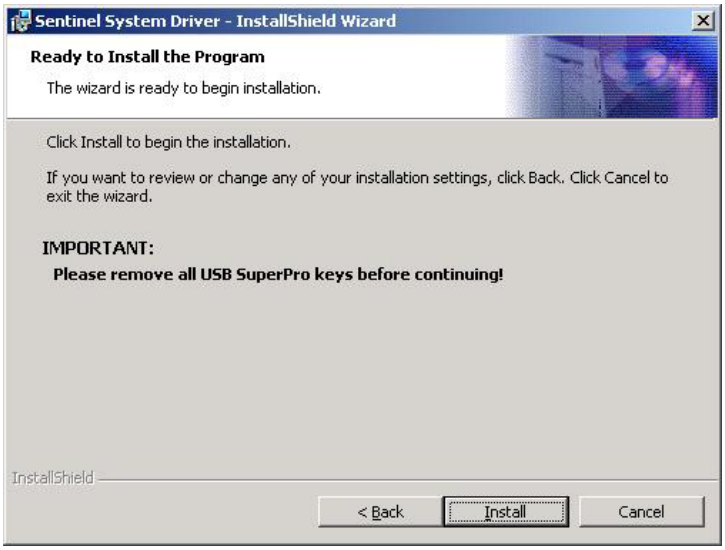
4. Click “Next” to continue.


Sentinel System Driver - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
All Products (including developer's kits, Sentinel hardware keys, diskettes or other magnetic media, software, documentation and all future orders) are subject to the terms stated below. If you disagree with these terms, please return the Product and the documentation to Rainbow, postage prepaid, within three days of your receipt, and Rainbow will provide you with a refund, less freight and normal handling charges.
1. You may not copy or reproduce all or any part of the Product, except as authorized in item 2 below. Removal, emulation or reverse-engineering of all or any part of the Product constitutes an unauthorized modification to the Product and is
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

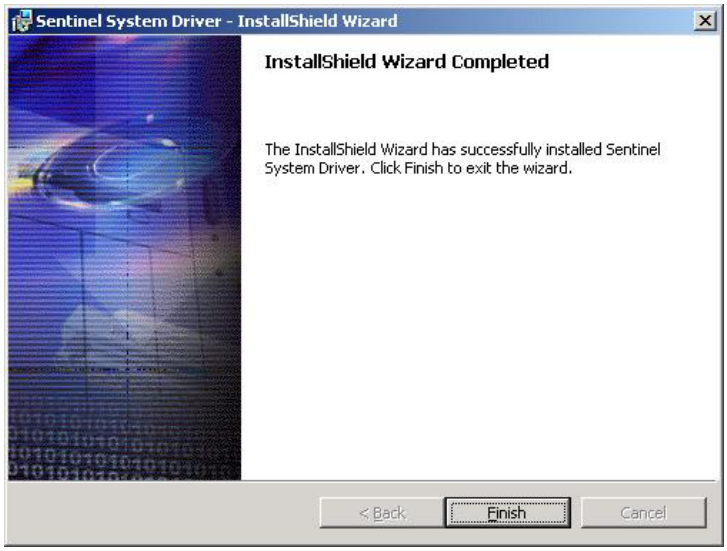
5. Choose “I accept the terms…”, and click “Next


Sentinel System Driver - InstallShield Wizard
Setup Type
Choose the setup type that best suits your needs.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Choose which program features you want installed and where they will be installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

6. Choose “Complete”, and click “Next”


Sentinel System Driver - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
IMPORTANT:
Please remove all USB SuperPro keys before continuing!
InstallShield
< Back
Install
Cancel

7. Click “Install”.

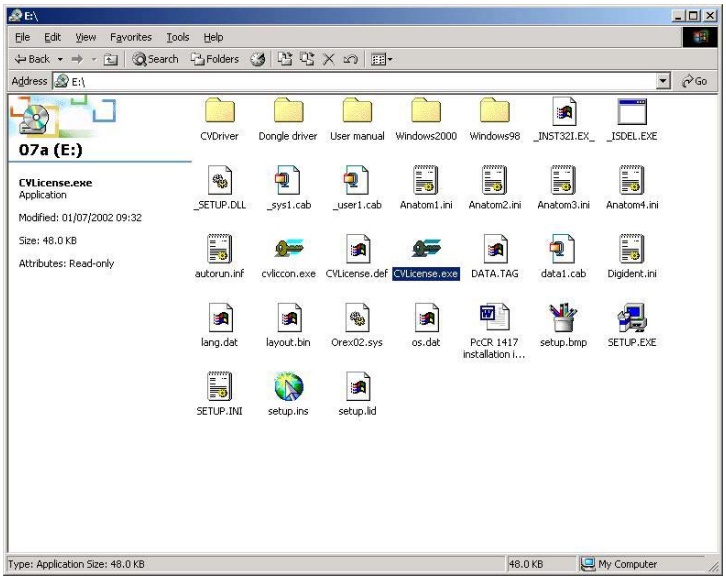

Sentinel System Driver - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Sentinel System Driver. Click Finish to exit the wizard.
< Back
Finish
Cancel

8. Click “Finish”.

4.4.6 Licensing the GOP Filters

This section can be applied ONLY after installing the Dongle as described on the previous section.

1. Insert the “Scanner Interface” CD into the CD-Rom drive.



2. Double click the “CVLicense.exe” file.

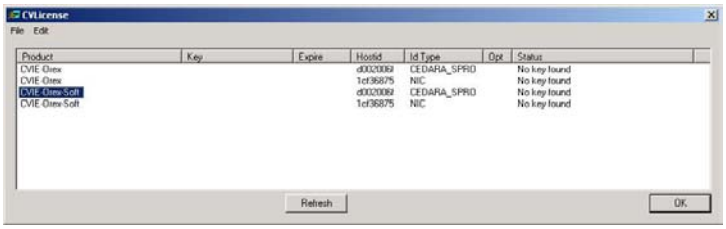
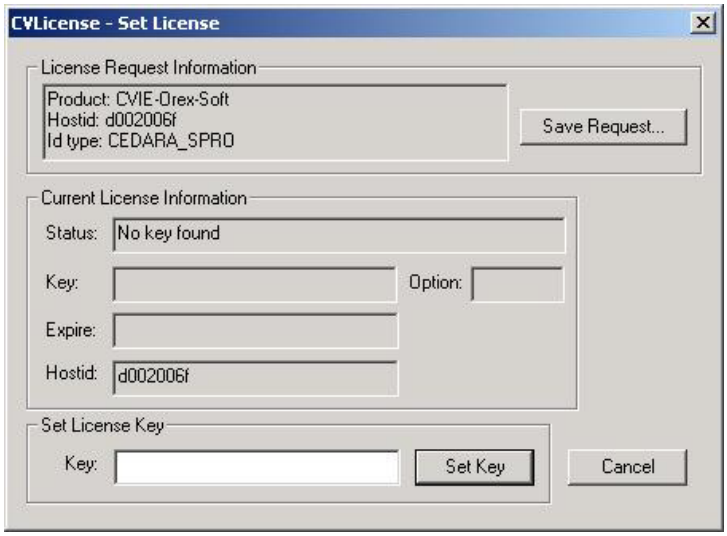


Figure 6: CVLicense Window Before GOP Licensing

3. A new window appears. Double click “CVIE-Orex-Soft” (3rd line).



4. The licensing window appears. Enter the code supplied by Orex into the "Key" dialog box. If you have not received the code, please contact your distributor. The code is unique, and depends on the SN of the Dongle, which appears on the dongle as a 4-digit number at the bottom line.

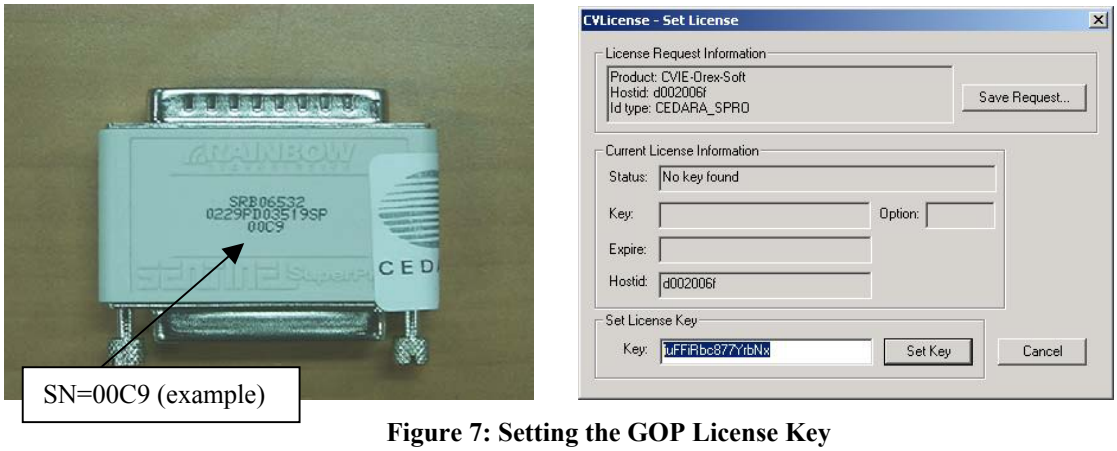


Figure 7: Setting the GOP License Key

5. Enter the code you received; then click "Set Key".

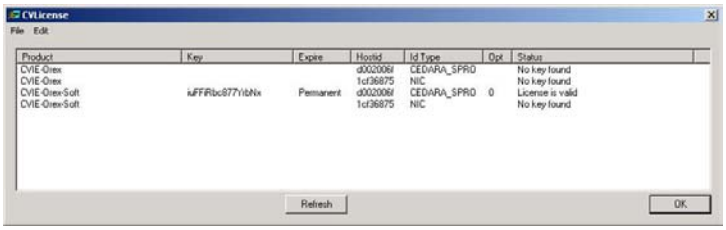


Figure 8: CVLicense Window After GOP Licensing

6. The previous screen appears again. This time the “CVIE-Orex-Soft” on the 3rd line is valid. Click “OK”.

4.5 Installation Report

In order for the warranty of the PcCR 1417 to take effect, and in order to verify correct installation by Orex, you are required to fill out the installation form and fax/e-mail to Orex service department.

The installation form is located in Appendix C

Orex Contact Information

Israel:

Fax: (+972) -4- 9591262
Email: support@orex-cr.com

USA:

Fax: (+1) -617-244-8888
Email: supportusa@orex-cr.com

5. Scanner Interface Software

5.1 General

The Scanner Interface Software is a module that enables the FSE to access to the PcCR 1417 advanced setup.

Following is a list of screens, and their functionality:

5.2 Interface Description

5.2.1 Main Screen

This screen is used as the interface between the end user and the scanner.

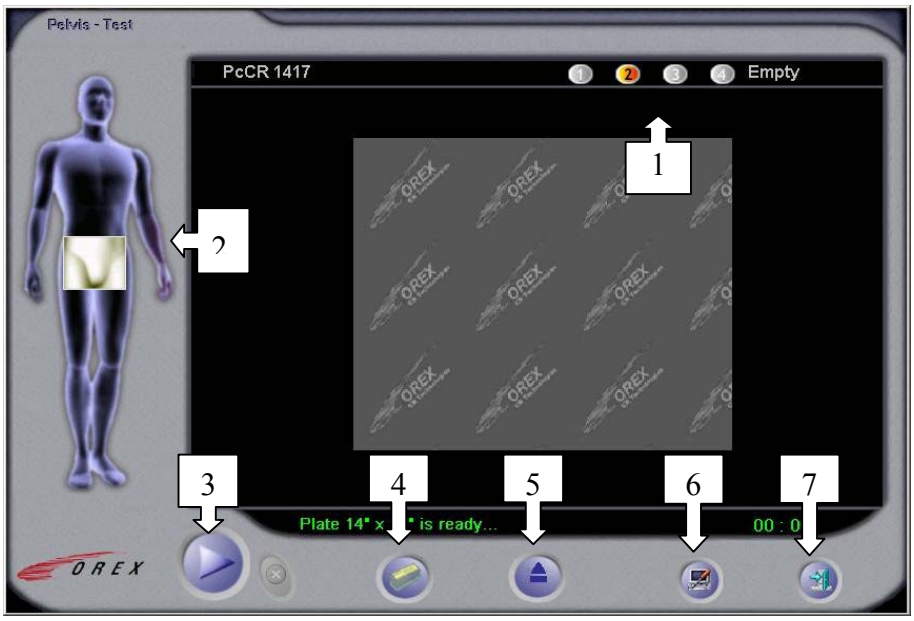
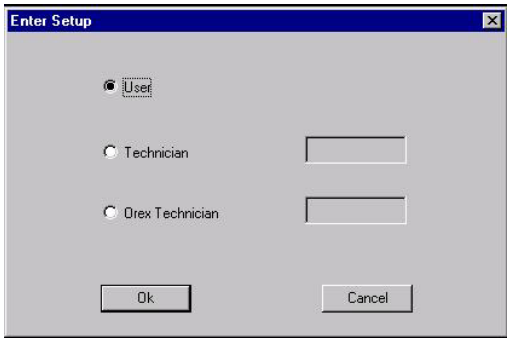


Figure 9: Scanner Interface, Main Screen

Title	Description
1. Unit	For selecting the x-ray unit being used
2. Region	For selecting the anatomical region to which the image you plan to scan belongs.

Title	Description
3. Scan	For starting to scan. During the scan a pre-view of the scanned image is displayed. At the end of the scanning process, the interface window closes
4. Erase	For erasing the image on the phosphor plate.
5. Eject	For unloading the plate; then ejecting the cassette.
6. Setup	For entering the Setup interface. The login screen is displayed:  • **User** password – None • **Technician** password – 9591 • **Orex Technician** password – Contact Orex Service Dept.
7. Exit	For exiting the PcCR 1417 interface.

5.2.2 Setup Anatomical

Note: Each setup relates to a specific part, to be scanned from a plate that originated from a specific x-ray machine.

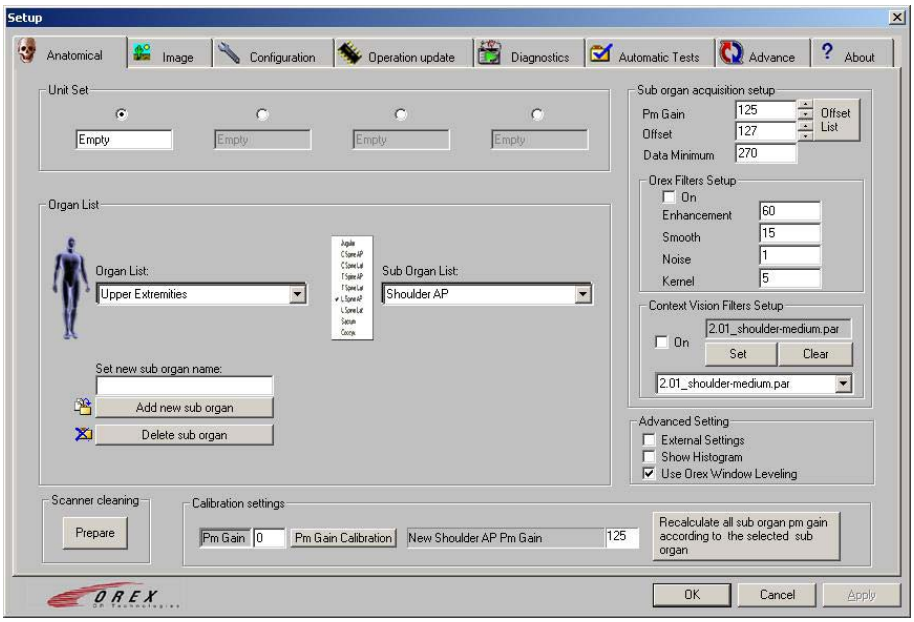


Figure 10: Setup Menu, Anatomical tab

Title	Parameter	Description
Unit Set		The PcCR 1417 can support up to 4 different x-ray units. Each unit has its own set of parameters. Select/name the unit on which you want to work. You can change the unit name at any time

Title	Parameter	Description
Organ List	Organ List	Select the required organ from the drop-down list. The following organs are available: • Skull • Upper Extremities • Chest • Abdomen • Spine • Lower Extremities • Abdomen
	Sub Organ List	Select the required sub-organ from the available list; this has to describe the image you want to scan. This is an initial list; you can add, and delete organs to any of the sub-organ lists (see the two buttons below).
Set new sub-organ name	Add new Sub-Organ	To add a new sub-organ: • Select the **Organ**. • Type the new **Sub-organ**. • Click **Add**.
	Delete Sub-Organ	To delete a sub-organ: • Select Organ. • Select Sub-organ. • Click Delete.
Scanner cleaning		To clean the Scanner rollers, • Click **Prepare**. • Insert the cleaning cassette. For more details refer to Appendix F in the User Manual.

Title	Parameter	Description
Calibration Settings	Pm Gain	For performing Automatic Calibration. Refer to the Calibration chapter in the User Manual.
	Set Pm Gain First Calibration Settings	Refer to the Calibration chapter in the User Manual.
Sub Organ Acquisition Setup	PM Gain calibration	After performing the automatic calibration process, it is possible to fine-tune the image. When the image is darker, increase the value by 10. When the image is lighter, decrease the value by 10.
	Offset	After the Offset calibration, refer to the User Manual. Do not change this value!
Orex Filters Setup		If you are using Orex filters, check the **On** checkbox; then enter the relevant values to display the best image. This option is usually not used.
Context Vision Filters Setup		If you are using CV filters, check the **On** checkbox; then choose the most appropriate filter, and click **Set** to save the settings.

Title	Parameter	Description
Advanced Setting		
	External Settings	For using settings pre-defined by an external software.
	Show Histogram	For showing the image histogram at the end of the scanning process.
	Use Orex Window Leveling	For performing automatic window leveling process on the image. It is recommended not to use this option.

5.2.3 Setup Image

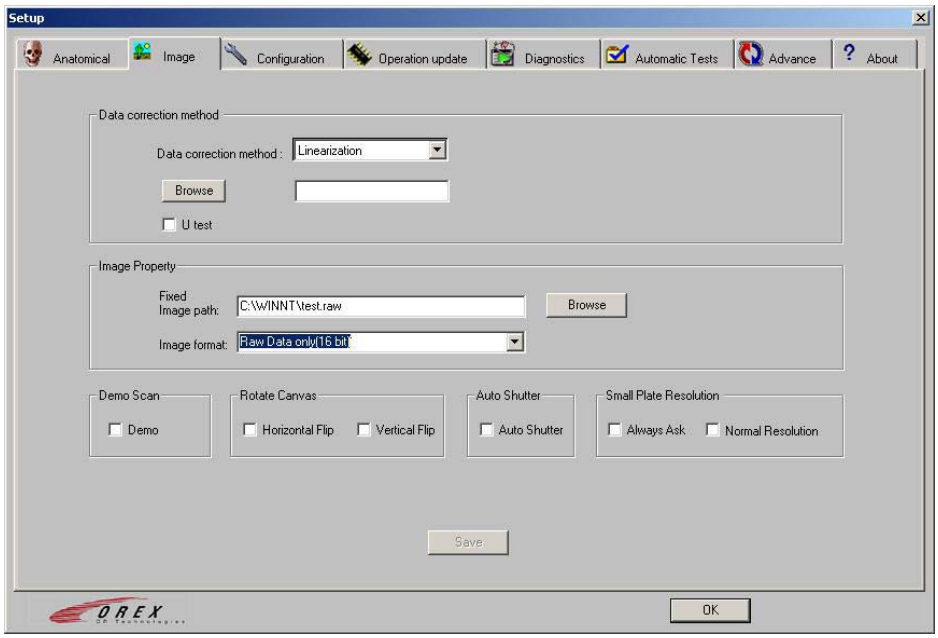


Figure 11: Setup Menu, Image tab

Title	Parameter	Description
Data Correction Method	Data Correction Method	For changing the data correction method. The recommended method is Linearization.
	Browse	For loading a pre-defined set of values; located by browsing.
U test		Not used.
Image Property	Fixed Image Path	For setting the path, where the scanner will save the scanned image. You can do this by either typing the path, or by Browsing to it. Do NOT forget to define the filename !!! For example: C:\winnt\test.raw

Title	Parameter	Description
	Image Format	For setting the image file format. Use ONLY **Raw Data only (16 bit)**
Demo Scan		For using an available image file for scanning, if no plate (cassette) is available.
Rotate canvas	Horizontal flip Vertical flip	For flipping the image.
Small Plate Resolution	Always Ask Normal Resolution	Before scanning a small plate, you will be prompted to choose the required resolution (Normal/High). All small plates will be scanned at normal resolution. Unchecked – Normal resolution always Checked – High resolution always
Save		For saving the parameters. This HAS to be done before selecting another tab.
Auto-Shutter		Allows Auto-Shutter operation on the image (removes white areas around the image)

5.2.4 Setup Configuration

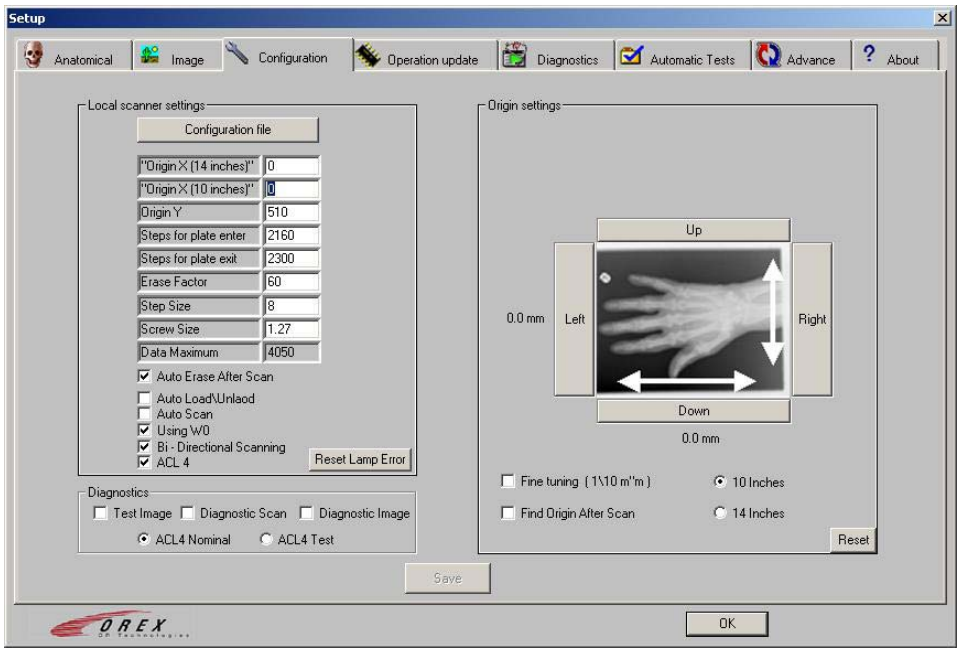
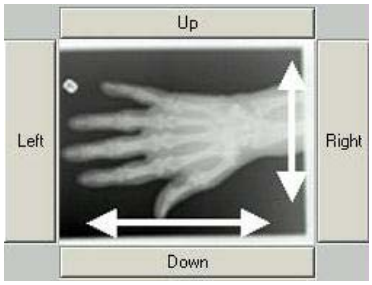


Figure 12: Setup Menu, Configuration tab

Title	Parameter	Description
Local Scanner Settings		
	Configuration file	Opens the configuration file with the Notepad.
	Origin X	X-axis home, where the scanner begins to scan the plate.
	Origin Y	Y-axis home, where the plate begins its journey inside the scanner.
	Steps for Plate Enter	The number of steps for the loader to return the plate into the cassette.
	Steps for Plate Exit	The number of steps for the loader to reach into the cassette and extract the plate.

Title	Parameter	Description
	Erase Factor	Increase this value for a longer erasing process (for using a very high dose). Decrease this value for a shorter erasing process (for using a very low dose).
	Step Size	Number of steps for each complete turn of the lead screw.
	Screw Size	Diameter of the lead screw.
	Data Minimum Data Maximum	Preset values used by the software to acquire the best results for both high density, and low density objects.
Auto Erase after Scan		The default operating mode of the scanner. After scanning, on its way back into the cassette, the plate is erased.
Auto Load/Unload		For Orex internal use only.
Auto Scan		For automatically starting a scan when you insert a cassette into the scanner.
Using W0		For using the W0 sensor. When the plate reaches this sensor feeding speed of the plate is lowered to prevent it from being damaged. Do not change default unless instructed by the Orex service department.
ACL4		For Orex internal use only.

Title	Parameter	Description
Bi-Directional Scanning		The carrier does not return Home after scanning, but waits where it ended the last scan, and uses that position as the starting point for the next scan.
Diagnostics	Test Image	For using a test image
	Diagnostic scan	For performing a Diagnostic scan
	Diagnostic image	For the calibration process. Once this option is checked, after the scanning process, the Image Diagnostics screen appears, from which you will be able to choose the type of required filter.
	ACL4 nominal	Must be chosen for nominal work.
	ACL4 test	For Orex internal use only.
Origin Settings		For fine-tuning the home position. After a scan is acquired, you can center the image, by either clicking it to the required position (or **Fine-tuning** for adjusting by smaller steps).
	Find Origin after Scan	After scanning, when the image is displayed, you can right-click the top/bottom of the image, or click the left/right, to align the image with the scanner Home.
	Reset	Resets all values (new Home values)

Title	Parameter	Description
	10 Inch	Choose when setting Origin for 10-inch wide images.
	14 Inch	Choose when setting Origin for 14-inch wide images.
Save		For saving the parameters. This HAS to be done before selecting another tab.

5.2.5 Setup Operation Update

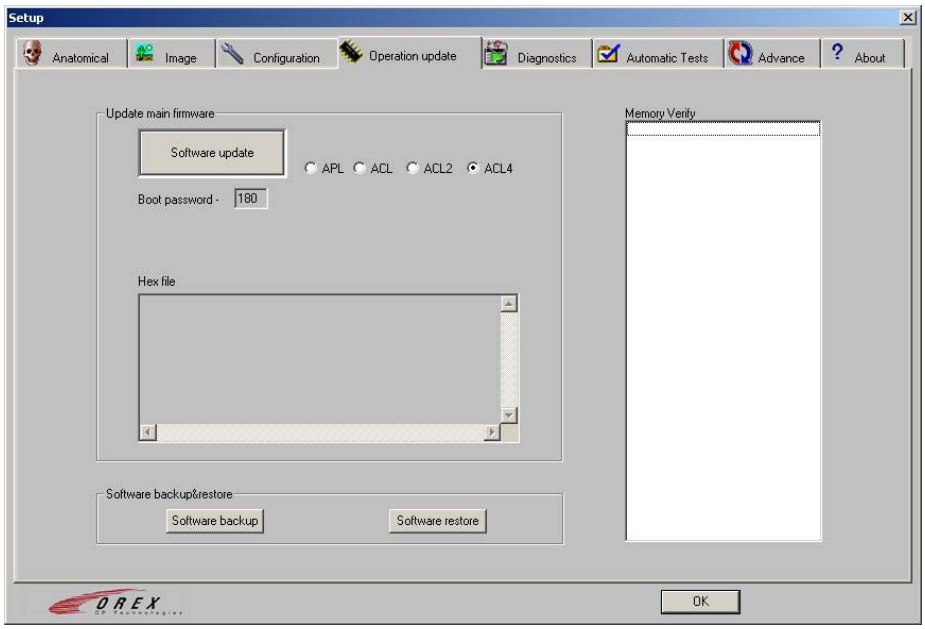


Figure 13: Setup Menu, Operation Update tab

Title	Parameter	Description
Update Main Firmware		
	Software Update	Select the type of scanner (APL, ACL, ACL2 or ACL4); then click the **Software update** button to update the software to the scanner.
	Boot Password	Displays the Boot password.
	Hex file	Displays the Hex file.
	Software Backup & Restore	Backs up and restores the software in your version.
Memory Verify		Displays feedback for memory verification.

5.2.6 Setup Diagnostics

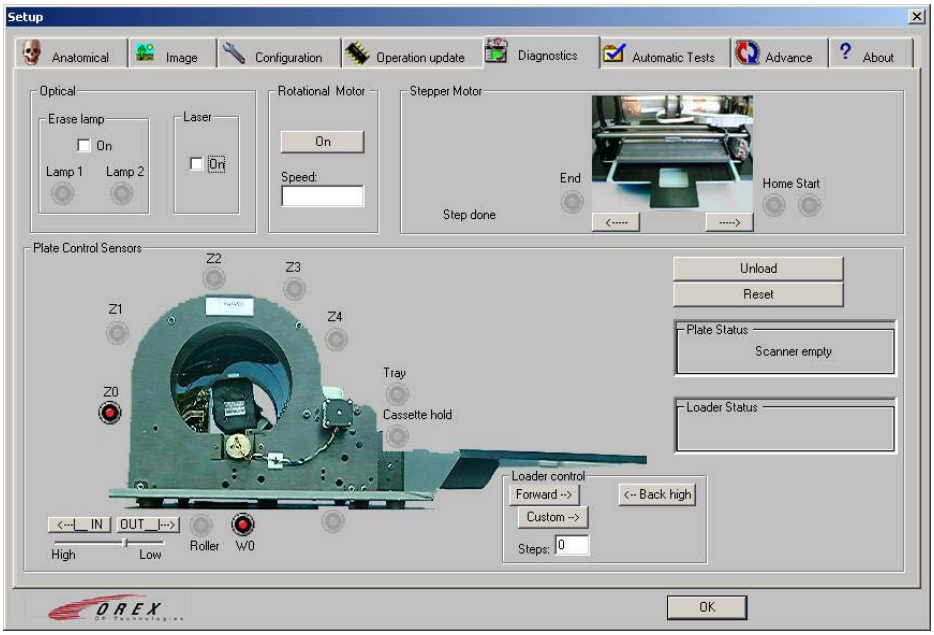


Figure 14: Setup Menu, Diagnostics tab

Title	Parameter	Description
Optical		
	Erase Lamp	Turn on/off the Erase lamp
	Lamp1	Indicates that lamp1 is on.
	Lamp2	Indicates that lamp2 is on.
	Laser	Turns on/off the Laser unit
Rotational Motor	On	Turns on the Rotational motor
	Speed	Indicates the speed of the rotational motor.
Stepper Motor	← →	Each click moves the carrier in the selected direction. When the carrier approaches its travel limit, it sets off a limit switch (red indication).
	End Start	

Title	Parameter	Description
Plate Control Sensors		
	Sensors	Tray – Cassette is docked Cassette hold – Cassette is locked Loader – Loader has reached plate W0 – Plate is approaching rollers; has to slow down Roller – Feeding rollers Z0-Z4 – Positioning sensors
	← → In Out	Moves the plate In or Out of the scanner.
	High/Low slide-bar	Controls the movement speed of the plate in the scanner.
	Unload	Unloads the cassette
	Reset	Resets all the sensors and motors in the Diagnostic menu.
	Plate Status	Displays the status of the plate
	Loader Status	Displays the status of the plate loader
Loader Control		
	Forward	Moves the Loader forward
	Back High	
	Back Low	
	Custom – Steps	Moves the Loader into the cassette. Each click moves it the number of steps typed into **Steps**.

5.2.7 Setup Automatic Tests

This menu is used primarily, at the end of the Orex production line, for burn-in tests.

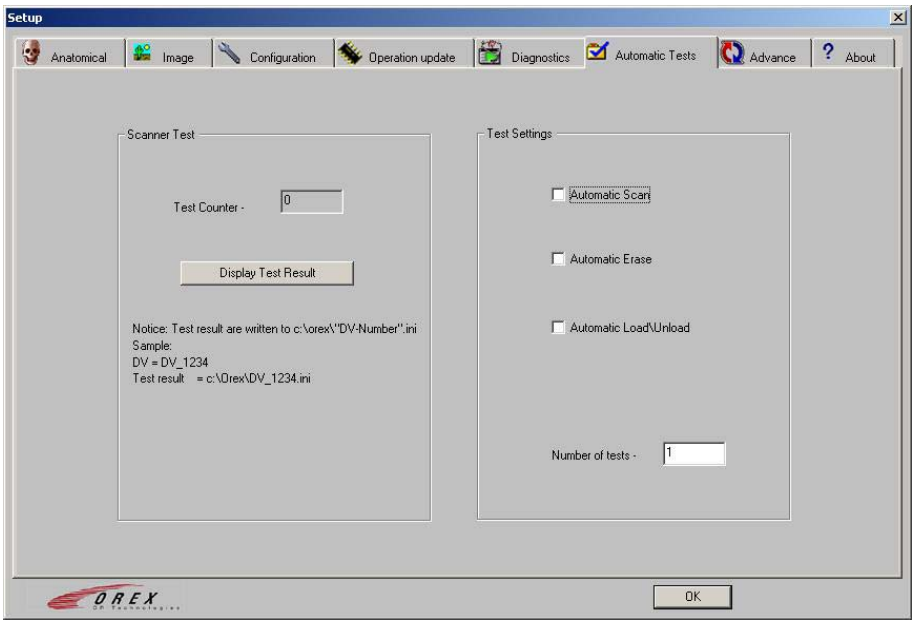


Figure 15: Setup Menu, Automatic Tests tab

Title	Parameter	Description
Scanner Test		
	Test Counter	Displays the number of tests that have been run.
	Display Test Result	Displays the test results.
Test Settings		
	Automatic Scan	Performs a scan automatically, when the cassette is inserted into its port. This test is usually run with the Automatic Load/Unload test
	Automatic Erase	Performs an automatic erase.

Title	Parameter	Description
	Automatic Load/Unload	Automatically Loads and unloads the plate. This test is usually run with the Automatic Scan test.
	Number of tests	Sets the number of tests to run.

5.2.8 Setup Advance

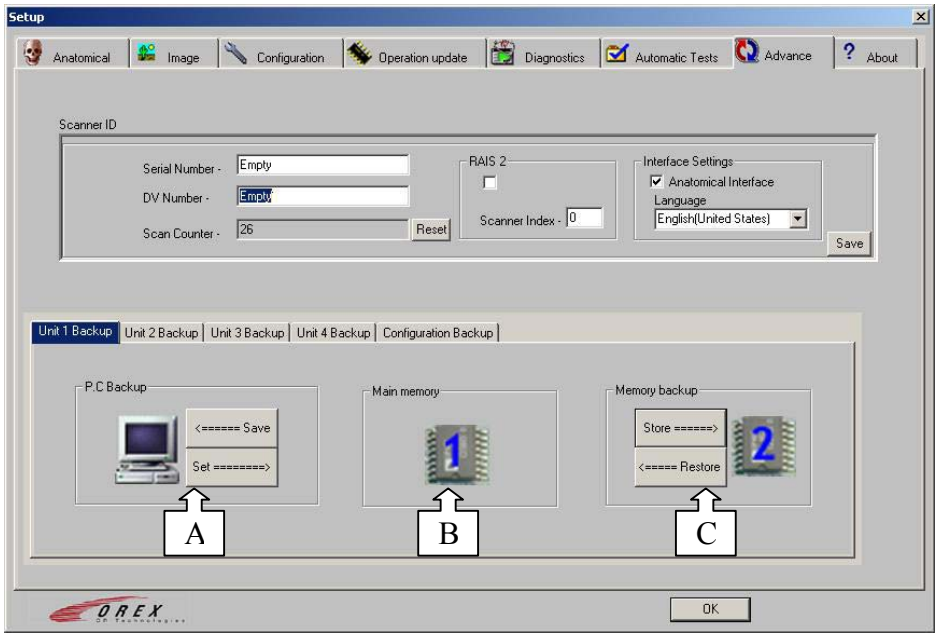


Figure 16:Setup Menu, Advance tab

Title	Parameter	Description
Scanner ID		From here you can edit the serial number, and the DV number.
	Serial Number	Displays the serial number of the system.
	DV Number	Not used.
	Scan Counter	Counts the number of scans.
	Reset	Resets the number of scans to “0”.
RAIS 2		Dual Scanner mode
	Scanner index	
Interface Settings		
	Anatomical Interface	Check for the body image on the main screen. Uncheck for test-labeled buttons. The labels can be renamed by using the Orex Editor.

Title	Parameter	Description
	Language	Choose the required Scanner Interface language.
Save		For saving the parameters. This HAS to be done before selecting another tab.
Unit 1-4 Backup		From here you can select the desired unit for performing backup, or restoring
Configuration Backup	**A.** PC Backup	Backup of data on the PC files
	B. Main memory	Currently used data on serial EPROM
	C. Memory backup	Backup of data on serial EPROM
	The buttons perform the following functions	
	Save	Copy **B** ➔ **A**
		Copy **A** ➔ **B**
		Copy **B** ➔ **C**
		Copy **C** ➔ **B**
	Orex recommends that these function shall be performed only by Orex technicians.	

5.2.9 Setup About

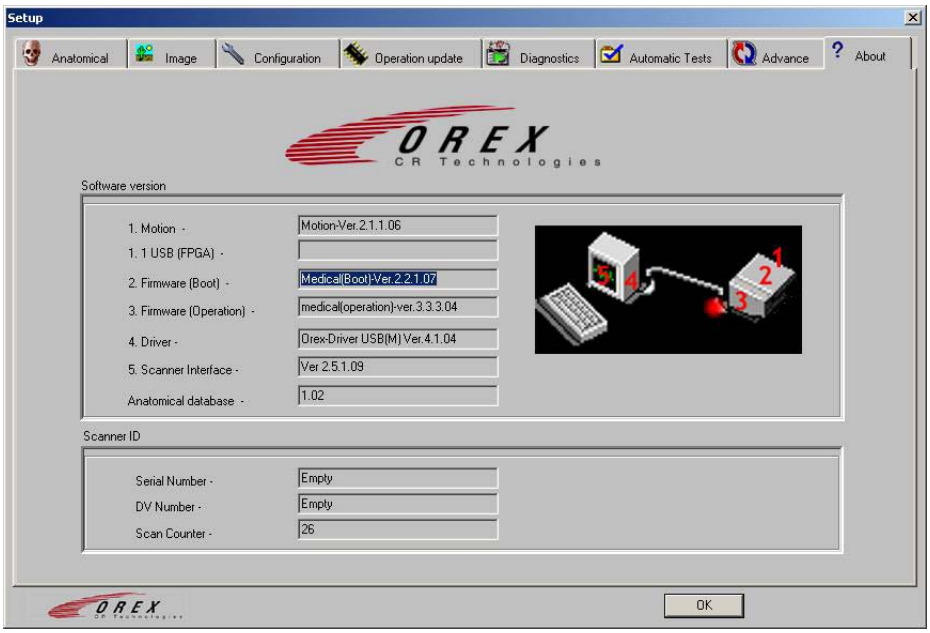


Figure 17: Setup Menu, About tab

Title	Parameter	Description
Software Version		
	1. Motion	Currently used version of the Motion board
	1.1 USB (FPGA)	Currently used version of the USB (FPGA).
	2. Firmware (boot)	Currently used version of the Firmware (boot)
	3. Firmware (Motion)	Currently used version of the Firmware (Motion)
	4. Driver	Currently used version of the Driver
	5. Scanner Interface	Currently used version of the Scanner Interface
	Anatomical database	Currently used version of the Anatomical database

Title	Parameter	Description
Scanner ID	Serial number DV number Scan counter	

5.2.10 Image Diagnostics

After scanning the desired image, it is displayed on the mini viewer. This is used for final calibration of the filters assigned to the displayed part (sub-organ).

As opposed to the Setup screens, the results can be seen immediately.

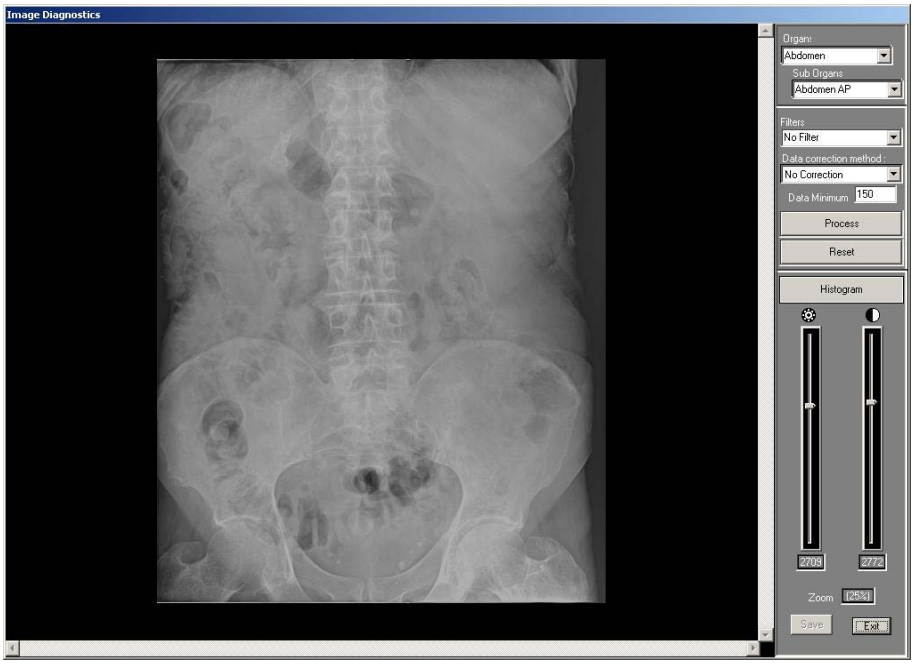


Figure 18: Image Diagnostic screen (Mini Viewer)

Title	Parameter	Description
Organ Selection	Organ	For selecting the main classification (organ)
	Sub Organ	For selecting the actual (viewed) sub-organ
Image Adjustments	Filters	For selecting the filter.

Title	Parameter	Description
	Data Correction method Data minimum Brightness slider Contrast slider	For changing the data correction method. The recommended method is Linearization. For changing the Data Minimum.
Process		For viewing the result of the new setup
Reset		For resetting the image
Histogram		To view the histogram of the displayed image
Save		To save the settings.
Exit		To exit the mini-viewer.

1. Select the correct **Sub-organ** from the relevant **Organ**.
2. Select the desired **Filter**; then click **Process** to view the filtered image.
3. You can now right-click and drag to change contrast and intensity; or click and drag to change zoom. The cursor changes accordingly.
   Alternatively, you can use the sliders at the bottom right of the screen.
4. If the result is not good enough, you can click **Reset** to reset the image; then repeat the procedure with another filter, until you get the best image.
5. When the desired image quality is attained, click **Save**. Whenever this part is selected for scanning under this unit, the image will be filtered at this saved quality.

It is possible to view the histogram of the image.

Additionally, it is possible, for each sub-organ, to set a Data Minimum value.

6. Troubleshooting

	Problem	What should I do?	Remarks
1.	"Disconnect" error message appears on the "scanner interface" screen	1. Check: Power cable connected? USB cable connected? 2. Turn system off; then on again.	
2.	Or-Acquire software does not load. Error message received	Check if Dongle is connected to the parallel port of the PC	See also: Chapter 4: Installation
3.	GOP filters do not apply on the image	Make sure that the GOP filters are licensed	See also: Chapter 4: Installation
4.	After the system is turned on, initialization sound does not stop.	Turn system off; then on again. If the problem persists, contact your distributor.	
5.	Cassette cannot be inserted into the tray.	Make sure the cassette is positioned at the center of the tray.	
6.	Image is too bright.	From the Scanner Interface – Setup menu, increase "PM-Gain" for the type of image which is too bright	See also: User Manual – Chapter: Using the scanner interface
7.	Image is too dark	From the Scanner Interface – Setup menu, and decrease "PM-Gain" for the type of image which is too light	See also: User Manual – Chapter: Using the scanner interface
8.	Double image received	1. Check that the erase lamps are working 2. If the erase lamps are OK, increase the erasing factor by 5 from the Scanner Interface – Setup menu ➔ Configuration	
9.	White lines appear on image.	Contact Orex service department	
10.	Horizontal lines appear on image	Contact Orex service department	
11.	Scan does not start	Contact Orex service department	
12.	Systems is shaking	Place system on steady surface	
13.	Diagonal lines appear on image	There is light penetration into the system. Place the system away from intense light source (window).	See also Chapter 3: Site Preparation

7. Appendix A: Installation Prerequisites

PRE-INSTALLATION FORM

Computer requirements:

PC:	
CPU – Pentium 4, 1.8GHz (min.)	
RAM – 256MB	
Hard-Drive – 20GB	
Operating System:	
Windows 2000	
Monitor:	
Size – 17” (min.)	
Resolution – 1024x768 (min.)	
Ports:	
USB port available	
NO USB mouse or keyboard	
Parallel port	
Additional:	
Network adapter (for Dicom send)	

Space requirements

Stable surface	
Width – 100 cm	
Height – 50 cm	
Depth – 80 cm	

Electrical requirements:

Voltage – 90-250 VAC	
Frequency – 50-60 Hz	
UPS – Online, 500 VA	
UPS connected to CR system, PC, Monitor	

Environmental requirements

Temperature – 18ºC-30ºC normal lab conditions	
Humidity – 80% non condensing	
Light – less than 1000 Lux	

Configuration requirements:

Name off PACS on the site *	
Dicom send required?	Yes / No
Dicom Print required?	Yes / No
Single Media Archive required?	Yes / No

* When using the PcCr 1417 with a main PACS on site, the images are Dicom sent to the PACS. Please verify with Orex the compatibility of the PACS to Orex software.

8. Appendix B: Installation Report

INSTALLATION REPORT

Reporting distributor:

Company name:		
Technician installing the PcCr 1417:	Name:	
	Tee. No.:	
	e-mail:	

Site information:

Name:	
Address:	
Tel. No.:	
Additional information:	

Installation pre-requisites:

Date:	
SN of system installed	
Computer requirements met ?	
Space requirements met ?	
Electrical requirements met ?	
Environmental requirements met ?	

* See Installation pre-requisites, Appendix B

Installation process

Drivers for CR	
Scanner interface	
Or-Acquire	
GOP drivers **	
GOP licensing **	

** Optional

Accessories (PLEASE SPECIFY QTY.)

14x17 cassettes	
14x14 cassettes	
10x12 cassettes	
8x10 cassettes	

Or-Acquire

Dicom send ***	
Dicom print	
SNA	

*** Please specify name of PACS to which the images are sent

Name: _____ signature: _____